Class C fly ash conforming to AASHTO M 295 will be allowed in grout for pavement jacking, undersealing or when specified. All other fly ash shall conform to AASHTO M 295 Class F including the optional requirements in the referenced AASHTO specification except as modified by the following:

Loss on ignition	2.0% Max.
Moisture content	2.0% Max.
Available alkalies as Na_2O	1.5% Max.*

These modifications shall not apply to fly ash used in slurrys for mudjacking or undersealing operations.

Fly ash shall be from approved base loaded electric generating plants using a single coal source. Plants using a limestone injection process for controlling air pollutants are not acceptable. Fly ash from the start up and shut down of the plant shall not be used.

* Available alkalies up to 2.0 percent may be used, provided mortar expansion test results at 14 days is less than or equal to that of the control sample. The expansion test shall be run in accordance with modified ASTM C 441. The control sample shall be made using cement that will be used on the project. The test sample shall be made using cement and fly ash that will be used on the project.

Number of Tests: Each sample from approved base loaded electric generating plant representing 400 tons (350 metric tons) or the sample representing the quantity sampled when this is less than 400 tons (350 metric tons) shall be tested for the following:

1. Fineness - No. 325 sieve analysis (45 µm sieve analysis).
2. Moisture content.
3. Specific gravity.
4. Loss on ignition.
5. Soundness.
6. All other physical tests and chemical determinations shall be made on composite samples representing each 3200 tons (2900 metric tons). This composite sample shall be prepared by combining equal parts of eight consecutive samples, each representing 400 tons (350 metric tons).

Test results shall be provided to the Engineer.

CHEMICAL COMPOSITION

The total of silicon dioxide (SiO_2) plus aluminum oxide (Al_2O_3) plus iron oxide (Fe_2O_3) shall be at least 66.0 percent by dry weight of the total fly ash composition. The silicon dioxide (SiO_2) shall be at least 40.0 percent by dry weight of the total fly ash composition. The test data shall be furnished to the Engineer in the form of a chemical and physical analysis report. The chemical analysis testing shall be performed by an independent lab prior to the Department proceeding with the concrete mix design. The Department may retest project samples to verify specification compliance. The Department will select an independent lab to perform verification testing and will be responsible for cost of the testing. When performed, the verification tests will be the basis of acceptance.